ABSTRACT OF THE DISCLOSURE

Methods and apparatus for spreading and concentrating information are taught. The present invention relates to constant-weight encoding of data words on a parallel data line bus while allowing communication of information across sub-word paths.

In one embodiment, of the present invention, data transfer rates previously obtained only with differential architecture are achieved by only a small increase in line count above single ended architecture. For example, an 18-bit data word requires 22 encoded data lines for transmission, where previously, 16 and 32 lines would be required to transmit un-coded data with single-ended and differential architectures respectively. Constant-weight parallel encoding maintains constant current in the parallel-encoded data lines and the high and low potential driver circuits for the signal lines.